

XXVI Fastener Test Methods (ASTM F 606)

All references ASTM F 606.

- 1) Does the activity have written procedures for preparing test specimens and selection of test methods to be used for testing? Yes ☐ No ☐

2) **Product Hardness Testing (3.1)**

- a. Does the activity have a written requirement to verify that any surface oxide, decarburization, plating or other coatings have been removed prior to testing? Yes ☐ No ☐ NA ☐
Ref. 3.1

- b. Does the activity use the correct test method? Yes ☐ No ☐ NA ☐
• ASTM E18 Rockwell -any size
• ASTM E 10 Brinell - $\geq 1 \frac{1}{2}$ " diameter
Ref 3.1.1.4

- c. Does the activity select the test locations in accordance with 3.1.1.1 - 3.1.1.3 ? Yes ☐ No ☐ NA ☐

3) **Tension Tests.**

- a. Does the activity ensure that six complete threads (except for heavy hex structural bolts, which shall be based on four threads) are exposed between grips during testing? For continuous thread bolts, at least six full threads shall be exposed. Described the method used to verify thread exposure. Yes ☐ No ☐ NA ☐
Ref. 3.2.2

4) **Proof Load - Method 1, Length Measurement Ref. 3.2.3**

a. Does the activity prepare test specimens and perform measurements on the specimen as required by 3.2.3? Yes ☐ No ☐ NA

b. If the activity does not use a bolt extensometer, verify that a measuring instrument capable of measuring changes in increments of 0.0001" with an accuracy of 0.0001" in any 0.001" range is used for length measurement. Yes ☐ No ☐ NA

c. Verify that the testing speed does not exceed .12in/min and that the load is held for at least ten seconds.

d. If re-testing is performed as allowed, is the load increased by 3%? Yes ☐ No ☐ NA ☐

5) **Proof Load - Method 2, Yield Strength Ref. 3.2.4**

Note: Method 2a is the applicable method for Austenitic Stainless Steel and Non-Ferrous Products.

a. Does the method the activity uses to measure the total elongation during testing include the exposed threads? Yes ☐ No ☐ NA ☐

b. Does the activity use an offset equal to 2% of the length occupied by six full threads as required to determine the load/stress? Yes ☐ No ☐ NA ☐

- 6) **Proof Load - Method 2a, Yield Strength (Austenitic Stainless Steel and Non-Ferrous Products). Ref. 3.2.4.1**
a. Does the activity determine the load/stress at an offset equal to 0.2% of the strain based on the length of the bolt between holders. Yes ☐ No ☐ NA ☐
- 7) **Proof Load - Method 3, Uniform hardness - Fasteners <=1" Diameter Ref. 3.2.5**
a. Are hardness tests conducted as specified in 2 above? Yes ☐ No ☐ NA ☐
- b. Does the activity perform a core hardness as required by 3.2.5 and compare the results to the mid-radius results? The difference shall not exceed 3 points. Yes ☐ No ☐ NA ☐
- 8) **Axial Tension Testing of Full-Sized Products Ref 3.4**
a. Does the activity have a written procedure for testing full size Bolts or Studs in accordance 3.4.1 / 3.4.2? Yes ☐ No ☐ NA ☐
- 9) **Wedge Tension Testing of Full-Size Product Ref 3.5**
a. Does the activity have a written procedure for wedge testing full size Bolts in accordance 3.5.1? Yes ☐ No ☐ NA ☐
- b. When wedge tension testing and proof load testing is required for bolts, does the activity use the proof loaded test bolts for the wedge testing as required by 3.5.1? Yes ☐ No ☐ NA ☐

c. Does the activity have a written procedure for wedge testing full size Studs in accordance 3.5.2? Yes ☐ No ☐ NA ☐

d. When wedge tension testing and proof load testing is required for studs, does the activity use the proof loaded test studs for the wedge testing as required by 3.5.2? Yes ☐ No ☐ NA ☐

10) Tension Testing of Machined Test Specimens.
Ref 3.6

a. Does the activity have a written procedure for preparing and testing machined specimens in accordance 3.6.1-3.6.1.4? Yes ☐ No ☐ NA ☐

b. Does the activity use the Drop of the beam or halt of the pointer method to determine the yield point?
Ref 3.6.2.2 Yes ☐ No ☐ NA ☐

c. Does the activity use the Autographic Diagram Method to determine the yield point?
Ref 3.6.2.3 Yes ☐ No ☐ NA ☐

d. Does the activity use the Total Extension Under Load Method to determine yield point? Yes ☐ No ☐ NA ☐
 • If so, do they use a class C or better extensometer?
 • Has the extensometer been verified and calibrated as required by ASTM E 83?
 Ref 3.6.2.4

- e. Does the activity use the Offset Method to determine yield strength? Yes ☐ No ☐ NA ☐
- If so, do they use a extensometer with a magnification of at least 250 to 1?
 - Has the extensometer been verified and calibrated as required by ASTM E 83?
- Ref 3.6.3.1

Does the activity determine the tensile strength, elongation and reduction in area in accordance with 3.64 - 3.6.52? Yes ☐ No ☐ NA ☐

11. Testing of internally threaded fasteners.
Ref 4.1

a. Does the activity perform hardness testing in accordance with 4.1 - 4.1.5? Yes ☐ No ☐ NA ☐

b. Does the activity perform proof load testing in accordance with 4.2-4.2.3? Yes ☐ No ☐ NA ☐

c. Does the activity perform cone proof load testing in accordance 4.3 ? Yes ☐ No ☐ NA ☐

